

REMARKS

Applicants have carefully reviewed the application in light of the Office Action dated March 9, 2009. Claims 1-19, 21-25, and 27-29 are pending in the application. Claims 1-18 are withdrawn from consideration. Applicants amend Claim 28. The amendment to the claims has only been done to expedite the prosecution.

Claim Rejections – 35 U.S.C. §112

The Examiner rejects Claim 28 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. While Applicants respectfully disagree, Applicants have amended claim 28 to expedite prosecution and request withdrawal of this rejection.

Claim Rejections – 35 U.S.C. §103

The Examiner rejects Claims 19, 22-24, and 27-29 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,782,096 issued to Banquy (hereinafter "*Banquy '096*") in view of U.S. Patent No. 5,496,859 issued to Fong et al. (hereinafter "*Fong*"), U.S. Patent No. 4,888,130 issued to Banquy (hereinafter "*Banquy '130*"), Davis et al., "Cryogenics for Syngas Processing," *Chemical Engineering Progress* (hereinafter "*Davis*"), and U.S. Patent No. 6,073,461 issued to McNeil et al. (hereinafter "*McNeil*"). In addition, the Examiner rejects Claim 21 under 35 U.S.C. §103(a) as being unpatentable over *Banquy '096* in view of *Fong*, *Banquy '130*, *Davis*, and *McNeil*, and further in view of U.S. Patent No. 4,044,063 issued to Ireland et al. (hereinafter "*Ireland*"). The Examiner further rejects Claim 25 under §103(a) as being unpatentable over *Banquy '096*, *Fong*, *Banquy '130*, *Davis*, *McNeil*, and further in view of U.S. Patent No. 4,650,814 issued to Keller (hereinafter "*Keller*"). Applicants respectfully traverse these rejections for the comments set forth below.

Independent claim 19 recites the following:

a cryogen separation system configured to separate unreacted hydrogen from said offgas or a gas derived therefrom to produce separated hydrogen

product that is substantially free of unreacted carbon monoxide and a first cryogenic liquid comprising unreacted carbon monoxide and unreacted hydrogen, the cryogen separation system being a first liquid methane wash column;

a second liquid methane wash column configured to separate unreacted hydrogen from said first cryogenic liquid or a cryogenic liquid derived therefrom to produce separated hydrogen fuel by-product and a second cryogenic liquid comprising unreacted carbon monoxide;

a nitrogen rejection column configured to separate nitrogen from said second cryogenic liquid to produce a third cryogenic liquid; and

a cryogenic distillation column configured to separate unreacted carbon monoxide from said third cryogenic liquid to produce separated carbon monoxide product and substantially carbon monoxide-free cryogenic liquid.

In particular, the offgas is separated into an unreacted hydrogen, unreacted carbon monoxide, nitrogen, and a substantially carbon monoxide-free cryogenic liquid. For the teaching of this limitation, the Examiner offers the stream 15 disclosed in *Banquy '096* and the discussion of physically separating the stream 15 into a hydrogen-rich stream and fuel for the primary stream reformer. Col. 9, lines 47-54. While *Banquy '096* does cite *Davis* for cryogenic separation techniques that may be used to generate the two streams, Applicants submit that *Banquy '096* fails to teach or suggest generating a nitrogen stream, a carbon monoxide stream, and a substantially carbon monoxide-free cryogenic liquid. In fact, *Banquy '096* merely teaches generating two streams. The first stream is a hydrogen-rich stream to mix with the syngas, and the second stream is fuel for the stream reformer. Accordingly, Applicants respectfully request reconsideration and allowance of claim 19 and its dependents.

CONCLUSION

Applicants have now made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicants respectfully request full allowance of all Claims.

If the present application is not allowed and/or if one or more of the rejections is maintained, Applicants hereby request a telephone conference with the Examiner and further request that the Examiner contact the undersigned attorney to schedule the telephone conference.

No fees are believed to be due. However, please apply any deficiencies or any other required fees or any credits to deposit account 06-1050, referencing the attorney docket number shown above.

Respectfully submitted,

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